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Operations

**CONDUCT OF KEY EXERCISES AND
EXPERIMENTS**

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This instruction establishes guidance for conduct of key Air Force exercises and experiments that will have an impact on doctrine, force structure and employment concepts. It implements portions of AFD 10-2, *Readiness*, and builds on the guidance in AFD 10-23, *Air Force Experimentation* and AFD 16-10, *Modeling and Simulation Management*, and amplifies certain aspects of AFI 10-204, *Participation in the Military Exercise Program*. It applies to key exercises and experiments that will have an impact on future Air Force doctrine, force structure, and employment concepts. For these key exercises and experiments, it includes procedures for establishing the Air Force Exercise/Experiment Coordination Team (AFECT) and Major Command (MAJCOM) exercise coordination teams to advocate proper representation of aerospace power. It also includes instructions for maintaining the Air Force Key Exercise/Experiment and Wargame Events Schedule (AFKEWES) to guide Air Force planning efforts for technology insertions, concept experiments, doctrine assessments, and modeling and simulation. Additionally, it includes procedures for Air National Guard and Air Force Reserve Command augmentee support by creating an Air Reserve Component Liaison Officer in HQ USAF/XOCW. The reporting requirements in Chapters 2 and 3 are exempt from licensing in accordance with paragraph 2.11.4 of AFI 37-124. Maintain and dispose of all records created as a result of processes prescribed in this instruction in accordance with AFMAN 37-139.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

This document has been substantially revised and must be completely reviewed. Major changes in this instruction include adding procedures for conduct of key experiments, deleting procedures for conduct of key wargames, and re-focusing the AFECT to provide oversight and deconfliction of key exercises and experiments. Other changes consist of revised tasking for selected organizations based on lessons learned since publication of the original AFI. The changes also include revised responsibilities for exercise/experiment control staffs and modeling and simulation support to take into account the newly created Professional Control Force capabilities in the Air Force Command and Control Training and Innovation Group.

Chapter 1

PURPOSE, OBJECTIVES AND CONCEPT OF OPERATIONS

1.1. Purpose. This Air Force Instruction (AFI) establishes guidance for Headquarters United States Air Force (HQ USAF), Major Commands (MAJCOMs), Direct Reporting Units (DRUs), Field Operating Agencies (FOAs), Numbered Air Forces (NAFs), Wargaming Centers, designated Air Force Forces headquarters (AFFORs), the Aerospace Command and Control Intelligence, Surveillance and Reconnaissance Center (AC2ISRC), the Air Force Experimentation Office (AFEO), and other agencies that support key exercises and experiments. The provisions contained herein apply to exercises and experiments of major importance to HQ USAF that will have an impact on future Air Force doctrine, force structure, and employment concepts.

1.2. Objectives. This AFI is designed to create an institutional approach whereby all Air Force stakeholders, from HQ USAF operations, intelligence, logistics and other supporting staffs down to individual exercise and experiment participants, are part of a focused Air Force team for conduct of exercises and experiments. The overarching objective of the AFI is appropriate and accurate representation of aerospace power for training purposes and for deliberate and reasoned assessments of new technologies and employment concepts. Specific objectives are to:

1.2.1. Designate the HQ USAF Directorate of Command and Control (HQ USAF/XOC) as the HQ USAF integrator for key exercises and experiments identified in the Air Force Key Exercise/Experiment and Wargame Events Schedule (AFKEWES). The AFKEWES includes an AF/XOC approved list of key exercises and experiments of major importance to HQ USAF.

1.2.2. Establish an 0-6 level Air Force Exercise/Experiment Coordination Team (AFECT) under HQ USAF/XOCW leadership to coordinate and integrate HQ USAF policy, oversight, and guidance for conduct of key exercises and experiments. The AFECT will be supported by Support Coordination Teams (SCTs) which are ad-hoc action officer groups formed for each key exercise and experiment.

1.2.3. Integrate HQ USAF staff agencies into the planning, execution, and assessment processes for key exercises and experiments and keep the senior Air Force leadership informed of exercise and experiment planning issues and post exercise/experiment results.

1.2.4. Require exercise coordination teams at MAJCOMs identified in the AFKEWES as Office of Primary Responsibility (OPR) for key exercises or experiments. These teams will integrate the activities of subordinate units and supporting commands and keep the AFECT apprised of planning actions and issues requiring resolution.

1.2.5. Improve training programs for exercises and experiments through conduct of formal training courses that teach participants how aerospace power contributes to a theater campaign, provides information on the limitations of M&S support, and reviews joint and Service doctrine.

1.2.6. Support procedures for use of Air National Guard (ANG) and Air Force Reserve Command (AFRC) exercise and experiment support teams and individual augmentees to assist wargaming centers, AFFOR Staffs/Air Operations Centers (AOCs), and other agencies conducting exercises and experiments.

1.3. Concept of Operations.

1.3.1. HQ USAF/XOC will establish the AFECT to integrate HQ USAF stakeholders in support of Air Force roles and missions during key exercises and experiments. The AFECT will be an 0-6 level team chaired by HQ USAF/XOCW and include representatives from HQ USAF/XOC, XOI, XOO, XOR, ILX, SCX, the Air Force Agency for Modeling and Simulation (AFAMS), the Air Force Doctrine Center (AFDC), ACC/XOT, MAJCOMs (as required), AC2ISRC, AFEO, the Air Force Command and Control Training and Innovation Group (C2TIG), and other agencies on an as required or ad-hoc basis. Exercise/experiment SCTs under the leadership of the exercise/experiment OPR's action officer for each key exercise or experiment will provide staff support to the AFECT. Attachment 2 contains the AFECT Charter.

1.3.2. MAJCOMs responsible for key exercises will establish Exercise Coordination Teams (ECTs) to facilitate MAJCOM support. These teams will work closely with the HQ USAF AFECT and SCTs, other MAJCOM ECTs, exercise AFFOR Staffs, agencies conducting exercises and experiments, and Air Force stakeholders in other agencies to ensure that all aspects of exercise and experiment support are provided to meet Air Force requirements. An outline for developing MAJCOM ECT charters is at Attachment 3.

1.3.3. After the AFECT determines which exercises and experiments will have an impact on future Air Force doctrine, force structure and employment concepts, HQ USAF/XOCW will develop the AFKEWES for approval by HQ USAF/XOC. After approval, the AFKEWES will then serve as a schedule for planning the most advantageous way to support key exercises and experiments and link technology insertions, doctrine assessments, and M&S support to specific key exercises and experiments. An example of the AFKEWES is at Attachment 4.

1.3.4. Pre-exercise and experiment education and training are essential. To accomplish this, several courses are available: ACC's Command and Control (C2) Warrior Program, AETC's Prime Warrior Training Program, and AFDC's Aerospace Doctrine Outreach Program. MAJCOMs and NAFs will arrange pre-exercise training for key exercises and experiments, as required. Attachment 5 provides a summary of training programs for personnel participating in exercises and experiments.

1.3.5. ANG and AFRC personnel can support conduct of exercises / experiments and significantly enhance Wargaming Centers, AFFOR Staffs, and other agencies conducting exercises and experiments. ANG and AFRC support to exercises and experiments can be coordinated through the Air Reserve Component Liaison Officer (ARCLO) in HQ USAF/XOCW as outlined in Attachment 6.

1.3.6. Although the AFKEWES identifies key exercises and experiments subject to the provision of this AFI, HQ USAF/XOO remains responsible for the overall Air Force Exercise Program under the provisions of AFI 10-204, *Participation in the Military Exercise Program*. Further guidance for Air Force experiments will be published in AFI 10-2301, *Air Force Experimentation*.

Chapter 2

RESPONSIBILITIES

2.1. Headquarters, United States Air Force (HQ USAF)

2.1.1. **HQ USAF/XOC**, as the primary HQ USAF integrator for Air Force key exercises and experiments identified in the AFKEWES, accomplishes the following:

2.1.1.1. Provides policy, guidance and oversight for conduct of Air Force participation in key exercises and experiments to include conduct of Advanced Concept Technology Demonstrations and Battlelab initiatives.

2.1.1.2. Advocates realistic capabilities of aerospace power, emerging Air Force concepts, operational strategies, and technology insertions.

2.1.1.3. Provides the AFECT Chair and Secretariat and serves as approval authority for AFECT actions.

2.1.1.4. Develops and publishes the AFKEWES in concert with AFECT members, MAJCOM ECTs and other agencies tasked to support exercises and experiments.

2.1.1.5. Employs the AFECT to resolve exercise issues beyond the capabilities of MAJCOMs and presents recommendations to the Air Force senior leadership, when required.

2.1.1.6. Keeps the Air Force senior leadership informed of ongoing planning actions and provides post-exercise and experiment assessments, as required.

2.1.1.7. Coordinates and integrates key exercise/experiment M&S support for supported MAJCOMs and AFFORs, as required.

2.1.1.8. Coordinates and integrates requirements for ANG and AFRC augmentation support with appropriate agencies to optimize use of ANG and AFRC augmentees.

2.1.1.9. Observes key exercises and experiments and reports observations, as required.

2.1.2. **HQ USAF/XOO**, as the Office of Primary Responsibility (OPR) for overall Air Force participation in the military exercise program, accomplishes the following:

2.1.2.1. Provides representation to the AFECT and accomplishes planning, programming, and other support actions as specified in AFI 10-204.

2.1.2.2. Ensures that Lessons Learned in the Air Force Remedial Action Program (RAP) are available to AFECT members, MAJCOM coordination teams and exercise planning staffs.

2.1.2.3. Attends planning conferences and provides exercise and experiment staff support when requested by the supported MAJCOM coordination teams, or exercise AFFOR, as required.

2.1.2.4. Observes key exercises and reports observations, as required.

2.1.3. **HQ USAF/XOR**, as the OPR for Air Force sponsored technology insertions in key exercises and experiments, accomplishes the following:

2.1.3.1. Provides representation to the AFECT and expertise in the planning, execution, and assessment of technology insertions during key exercises and experiments.

- 2.1.3.2. Assists in coordinating and integrating technology insertions into the AFKEWES, when appropriate.
- 2.1.3.3. Attends planning conferences and provides staff support in the exercise and experiment planning processes, when required or requested by the AFFOR planning staff.
- 2.1.3.4. Observes key exercises and experiments and reports observations, as required.
- 2.1.4. **HQ USAF/XOI**, as the OPR for Intelligence, Surveillance and Reconnaissance (ISR) and Information Warfare (IW) in exercises and experiments, accomplishes the following:
 - 2.1.4.1. Provides representation to the AFECT and expertise in planning, execution and assessment of ISR and IW activities during exercises and experiments.
 - 2.1.4.2. Provides additional policy and guidance, as necessary, to ISR and IW organizations and agencies.
 - 2.1.4.3. Assists MAJCOM exercise coordination teams and exercise planning staffs in resolving Information Warfare and ISR issues, as required.
 - 2.1.4.4. Acts as primary liaison for the Air Staff to the Intelligence Community (e.g., Central Intelligence Agency, National Imagery and Mapping Agency, National Reconnaissance Office, National Security Agency, etc.).
 - 2.1.4.5. Observes key exercises and experiments and reports observations, as required.
- 2.1.5. **HQ USAF/ILX**, as the HQ USAF/IL OPR for installations and logistics in key exercises and experiments, accomplishes the following:
 - 2.1.5.1. Provides representation to the AFECT and insures that realistic logistics representations are integrated into key exercises and experiments.
 - 2.1.5.2. Assists HQ USAF/XOC in staying abreast of the level of logistics play in key exercises and experiments, as required.
 - 2.1.5.3. Provides inputs to post-exercise/experiment assessments, as required.
 - 2.1.5.4. Observes key exercises and experiments and reports observations, as required.
- 2.1.6. **HQ USAF/SCX**, as the HQ USAF/SC OPR for communications and information in key exercises and experiments, accomplishes the following:
 - 2.1.6.1. Provides representation to the AFECT and insures that realistic communications and information representations are integrated into key exercises and experiments.
 - 2.1.6.2. Provides expertise in planning, execution, and assessment of communications activities during exercises and experiments, as required.
 - 2.1.6.3. Assists MAJCOM exercise coordination teams and exercise planning staffs in resolving communications and information operations issues, as required.
 - 2.1.6.4. Other HQ USAF staff agencies provide representatives to the AFECT to support key exercise and experiment efforts, as required.

2.2. Major Commands (MAJCOMs):

2.2.1. Designate an office as OPR for applicable key exercises and experiments in the AFKEWES.

2.2.2. For MAJCOMs with key exercise responsibilities in the AFKEWES, establish a MAJCOM ECT to support all aspects of exercise planning, execution and post-exercise assessments.

2.2.3. Assist designated exercise and experiment AFFORs in all aspects of exercise/experiment planning, execution and assessment, as required.

2.2.4. Forward shortfalls and issues beyond the capability of the MAJCOM to other MAJCOMs, DRUs and FOAs, or to the appropriate HQ USAF OPR for resolution, as required.

2.2.5. Provide or arrange for pre-exercise/experiment training, as required.

2.2.6. Assist Wargaming Centers, NAFs and other subordinate units in identifying ANG and AFRC exercise and experiment augmentation requirements for submission to the ARCLO in HQ USAF/XOCW and appropriate AFRC and ANG agencies.

2.2.7. Participate in applicable key exercises and experiments and report observations, as required.

2.3. Direct Reporting Units (DRUs) and Field Operating Agencies (FOAs):

2.3.1. Air Force Doctrine Center (AFDC):

2.3.1.1. Provides representation to the AFECT and MAJCOM ECTs and provides expertise on doctrinal issues, when required.

2.3.1.2. Provides support to MAJCOM coordination teams, as required.

2.3.1.3. Assists in coordinating and integrating the schedule for doctrine assessments into the AFKEWES, and in the planning and execution of doctrine assessments during exercises and experiments, when appropriate.

2.3.1.4. Provides pre-event Service/Joint doctrine overview sessions and doctrine related issue briefings, as required.

2.3.1.5. Participates in key exercises and experiments and reports doctrinal issues and observations, as required.

2.3.2. Air Force Agency for Modeling and Simulation (AFAMS):

2.3.2.1. Provides representation and support to the AFECT and supports MAJCOM ECTs, as required.

2.3.2.2. Manages development and maintenance of the Air Force Suite of Models (AFSOM) and provides configuration management, as required.

2.3.2.3. In coordination with the C2TIG and other wargaming centers, assists HQ USAF/XOCW in developing and maintaining the AFKEWES.

2.3.2.4. Coordinates and integrates M&S support requirements with MAJCOMs, NAFs, and the C2TIG and reports shortfalls and deficiencies to HQ USAF/XOCA for follow-on actions.

2.3.2.5. Supports exercises and experiments by participating in planning conferences and integrating exercise M&S support, as required.

2.3.2.6. Compiles, analyzes, maintains, and disseminates M&S results in post-exercise reports and from other sources.

2.3.2.7. Participates in key exercises and reports observations, as required.

2.3.3. Air Force Logistics Management Agency (AFLMA). AFLMA works closely with HQ USAF/ILX to integrate model requirements and ensures that logistics M&S support for exercise and experiments satisfies objectives.

2.4. Other Specifically Tasked Organizations:

2.4.1. HQ ACC Directorate of Operations, Training and Exercises (ACC/XOT).

2.4.1.1. Accomplishes coordination with AC2ISRC and C2TIG to schedule and deconflict Professional Control Force (PCF) support to Air Force experiments and AFECT/ACC Joint Exercise Coordination Team (AJECT) priorities for exercise support.

2.4.1.2. Serves as the primary integrator for C2TIG/PCF support during key Joint and Service exercises.

2.4.1.3. Provides augmentation personnel and other support to other MAJCOM key exercises, as requested.

2.4.2. **Numbered Air Forces (NAFs):**

2.4.2.1. Provide AFFOR Staff and Air Operations Center for key exercises and experiments, when tasked, and keep the MAJCOM ECT or other appropriate MAJCOM OPRs informed of ongoing planning actions and shortfalls beyond their capability to resolve.

2.4.2.2. Identify AFRC and ANG exercise augmentation requirements to their parent MAJCOM and the ARCLO in HQ USAF/XOCW.

2.4.2.3. Provides post-exercise reports to MAJCOM exercise coordination teams and HQ USAF/XOCW after each exercise for which they are OPR.

2.4.3. **Aerospace Command and Control Intelligence, Surveillance and Reconnaissance Center (AC2ISRC).**

2.4.3.1. Serves as the lead Air Force organization to integrate and influence C2 and Intelligence, Surveillance and Reconnaissance (ISR) and experimentation during exercises and experiments.

2.4.3.2. Accomplishes coordination with ACC/XOT, AFEO and C2TIG to schedule and de-conflict PCF support to AC2ISRC experiments and ACC Joint Exercise Control Team (AJECT) priorities for exercise support.

2.4.4. **Air Force Command and Control Training and Innovation Group (C2TIG):**

2.4.4.1. Provides the PCF for participation in key exercises and experiments from initial planning through the after action review process, as tasked in the AFECT/AJECT scheduling process.

2.4.4.2. Prepares exercise control plans and provides optimum M&S and other control staff support to promote realistic exercise simulation to meet the supported MAJCOM/AFFOR requirements and objectives as tasked in the AFECT/AJECT scheduling process.

2.4.4.3. Within capabilities, provides exercise planning and other assistance to AFFOR staffs during planning for key exercises and experiments.

2.4.4.4. Within capabilities, assists with exercise preparation by conducting pre-exercise training and Theater Air Control System (TACS) support for active duty, AFRC and ANG control staff, response cell and player personnel.

2.4.4.5. Coordinates with the ARCLO in HQ USAF/XOCW to schedule and conduct training for members of the ANG and AFRC who are tasked to provide augmentation support to key exercises and experiments.

2.4.4.6. With assistance from AFAMS, provides HQ USAF/XOCW with bimonthly update information on CONUS key exercises and other Computer Assisted Exercise (CAX) events required for publications of the AFKEWES.

2.4.4.7. Provide written reports capturing M&S lessons learned, a comparison of exercise results with objectives, and recommendations for improvement, when tasked for exercise/experiment support.

2.4.5. Warrior Preparation Center (WPC) and Korea Air Simulation Center (KASC):

2.4.5.1. Provide representation and support to the MAJCOM exercise coordination teams, as required.

2.4.5.2. Identify ANG and AFRC exercise/experiment augmentation requirements to their parent MAJCOMs and to the ARCLO in HQ USAF/XOCW.

2.4.5.3. Identify and coordinate Joint and Service exercise M&S support requirements, as required.

2.4.5.4. Assist the NAF/AFFOR Staffs and other exercise/experiment planning staffs by providing exercise design assistance, M&S expertise, and exercise control staff support, as required.

2.4.5.5. Provide HQ USAF/XOCW with bimonthly AFKEWES update information on key exercises and other CAX events for which they are OPR.

2.4.6. Air Force Wargaming Institute (AFWI). AFWI conducts the Prime Warrior Training Program to prepare personnel for participation in exercises, and experiments, as required.

Chapter 3

PROCEDURES

3.1. Development of the AFKEWES. The AFKEWES identifies key exercises and experiments and designates HQ USAF and MAJCOM OPRs for each exercise or experiment. After AFECT development and HQ USAF/XOC approval of the initial list of exercises and experiments, HQ USAF/XOCW develops the AFKEWES, monitors its execution and recommends changes, as required. The AFKEWES is developed using technology insertion inputs from HQ USAF/XOR, doctrine assessments from the AFDC, M&S requirements from the appropriate OPR for M&S, and other inputs from AFECT members and MAJCOM coordination teams, as required. HQ USAF/XOCW maintains the AFKEWES with inputs from C2TIG, AFAMS, AFFOR Staffs, Wargaming Centers, and other agencies designated as OPR for key events in a specific exercise or experiment. After initial approval, the AFKEWES can be changed; however, HQ USAF/XOC approval is required for significant changes.

3.1.1. Technology Insertions. In order to plan and execute technology insertions during key exercises and experiments, HQ USAF/XOR keeps the AFECT informed of technology assessments and develops inputs to the AFKEWES. These inputs outline Air Force technology insertion objectives, describe individual Joint and Air Force initiatives, and provide other information such as the use of exercises for conducting experiments and the status of funding, when funding is not provided by the sponsoring agency.

3.1.2. Doctrine Assessments. Exercises and experiments provide excellent vehicles for assessment of current and evolving Service and joint doctrine. AFDC will provide MAJCOM and NAF exercise and experiment planners assessments of contentious doctrinal issues, when required. AFDC will monitor, and engage as appropriate, in planning for and execution of all AFKEWES events. AFDC will inform the AFECT of all doctrine initiatives programmed in conjunction with AFKEWES events.

3.1.3. M&S Support. Adequate model support during key exercises and wargames is essential for realistic representation of airpower. To ensure that model support is optimized for meeting overall Air Force requirements for key exercises, AFAMS coordinates with C2TIG and the appropriate MAJCOM ECT and/or Wargaming Center to ensure M&S support for key exercises and experiments satisfies requirements in the AFKEWES.

3.2. Procedures for Conduct of Key Exercises and Experiments:

3.2.1. AFECT/AFKEWES Integration Process.

3.2.1.1. HQ USAF/XOCW serves as Chair of the AFECT and establishes a venue for key exercise/experiment updates and issues requiring HQ USAF action to assist the supported MAJCOM. Additionally, the AFECT is responsible for prioritizing key exercises and experiments to assist AFAMS and the C2TIG in management of resources for their support. AF/XOCW schedules/coordinates AFECT meetings, approximately two-three times a year or as requested by the AFECT Chair.

3.2.1.2. HQ USAF/XOCW keeps key exercise and experiment stakeholders, exercise planning staffs, supporting agencies and Wargaming Centers informed of issues by consolidating and distributing bimonthly updates of the AFKEWES. AF/XOCW also sets suspenses for inputs, defines the format, and distributes the AFKEWES to all interested agencies.

3.2.1.3. C2TIG provides bimonthly update information (with assistance from AFAMS, as required) to HQ USAF/XOCW on CONUS-based key exercises, experiments and other CAX events. HQ USAF/XOCW determines the appropriate POC to provide regular updates for OCONUS-based key exercises and other CAX events as defined by AF/XOCW. After consolidation of inputs from all sources, HQ USAF/XOCW distributes the AFKEWES via E-Mail to all interested agencies.

3.2.2. Key Exercise/Experiment Planning and Execution.

3.2.2.1. Within capabilities, C2TIG provides exercise planning assistance to AFFOR Staffs in key exercises. Support for key experiments depends upon the venue and the agency sponsoring the experiment. The PCF normally supports one key exercise/experiment at a time. This allows C2TIG to provide a robust support package and accompanying undivided attention to the training audience. However, exercise planning assistance in smaller teams will be provided during key exercises based on capability and availability. Competing demands for PCF support will be addressed during the AFECT/AJECT prioritization meetings and through coordination between ACC/XOT and AC2ISRC/C2C. Once AC2ISRC deconfliction is completed, C2TIG assistance will begin during the earliest stage of concept development and end after completion of the AAR process. Prioritization for key exercise support will be determined by the AFECT and the AJECT will perform scheduling deconfliction. Normally, the PCF will be employed as a team to provide a robust support package to the supported AFFOR. Publication of key exercise/experiment prioritization and the PCF support schedule will be included in the AFKEWES and the AJECT web page.

3.2.2.2. When tasked by AC2ISRC in the AFECT/AJECT scheduling process, C2TIG and the supported MAJCOM's M&S OPR, will prepare an exercise control plan that governs Air Force control staff support. Copies of the plan will be sent to the MAJCOM/AFFOR exercise/experiment planning staff, ACC/XOT and HQ USAF/XOCW.

3.2.2.3. When tasked by AC2ISRC or ACC/XOT in the AFECT/AJECT scheduling process, C2TIG assists in exercise/experiment support. Specific support will include functions such as training, augmentation and/or technical/instructor controller support for the control staffs, response cells, the opposition force staff, training liaisons and command and control system integration. C2TIG, in coordination with AFAMS, can also provide Distributed Wargame System (DWS) kits and support to distributed exercises or experiments; however, the C2TIG is not manned to conduct complete communications planning for a MAJCOM/AFFOR planning staffs.

3.2.3. Simulation Support Procedures.

3.2.3.1. AFAMS, supported by C2TIG, advocates accurate representations of aerospace capabilities through establishment of adequate M&S support.

3.2.3.2. AFAMS manages the development and maintenance of the Air Force Suite of Models (AFSOM) and provides AFSOM configuration management. AFAMS also assists with key exercise and experiment planning to include developing M&S exercise/experiment support plans that address MAJCOM/AFFOR requirements.

3.2.3.3. AFAMS coordinates with MAJCOMs, NAFs and the C2TIG to identify critical M&S supportability shortfalls and forwards deficiencies to HQ USAF/XOCA for follow-on actions at HQ USAF. AFAMS also coordinates with C2TIG to ensure that exercise/experiment shortfalls are included in the AFKEWES.

3.3. After Action Review & Lessons Learned Procedures:

3.3.1. C2TIG, supported by AFAMS, provides a written report capturing M&S lessons learned and a comparison of exercise results with objectives, and recommendations for improvement. This report should be written in the Joint Universal Lessons Learned (JULLS) format and forwarded to the supported MAJCOM/AFFOR with information copies to AF/XOCW, AF/XOCA, AF/XOOT and ACC/XOT within 30 days after the exercise or experiment. The M&S Lessons Learned Report will assist the supported MAJCOM in preparing the final After Action Report which is due to HQ USAF/XOOTE 60 days after the exercise in accordance with AFI 10-204.

3.3.2. HQ USAF/XOCW monitors exercise/experiment planning actions associated with key exercises and experiments to assist the MAJCOM ECT and AFFOR Staff, as required. MAJCOM ECT attendance at key exercise/experiment planning conferences can help to identify planning problems as early as possible. In most instances, resolution of problems beyond the capability of the AFFOR Staff will be resolved by the parent MAJCOM.

3.4. ANG and AFRC Exercise/Experimentation Support Procedures. Wargaming Centers requiring trained ANG and AFRC personnel provide specific requirements to the ARCLO in HQ USAF/XOCW as soon as possible after requirements are identified. MAJCOMs, NAFs and other agencies requiring AFRC and ANG wargaming personnel may also provide requirements to the ARCLO for possible fill from ANG and AFRC resources, as required. Specific information regarding grade and AFSC along with information on acceptable substitutions should be provided in time to acquire volunteers to fill the positions.

MARVIN R. ESMOND, Lt General, USAF
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Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 10-2, *Readiness*

AFPD 10-23, *Air Force Experimentation*

AFPD 16-10, *Modeling and Simulation Management*

AFI 10-2391, *Air Force Experimentation*

AFI 10-204, *Participation in the Military Exercise Program*

Abbreviations and Acronyms.

AC2ISRC—Aerospace Command and Control Intelligence, Surveillance, and Reconnaissance Center

AFAMS—Air Force Agency for Modeling and Simulation

AFDC—Air Force Doctrine Center

AFECT—Air Force Exercise Coordination Team

AFEO—Air Force Experimentation Office

AFFOR—Air Force Forces

AFKEWES—Air Force Key Exercise/Experiment and Wargame Events Schedule

AFLMA—Air Force Logistics Management Agency

AFWI—Air Force Wargaming Institute

AOC—Air Operations Center

AJECT—ACC Joint Exercise Coordination Team

ARC—Air Reserve Component

ARCLO—Air Reserve Component Liaison Officer

CAX—Computer Assisted Exercise

C2TIG—Command and Control Training and Innovation Group

DRU—Direct Reporting Unit

FOA—Field Operating Agency

KASC—Korea Air Simulation Center

M&S—Modeling and Simulation

NAF—Numbered Air Force

OPR—Office of Primary Responsibility

OCR—Office of Collateral Responsibility

PCF—Professional Control Force

RAP—Remedial Action Program

WPC—Warrior Preparation Center

Terms

Computer Assisted Exercise (CAX)—An exercise in which forces are simulated by computer models and simulations. CAXs may be conducted from field or in-garrison locations, are often coordinated via Service or Joint simulation centers, and/or between headquarters at multiple locations.

Exercise —A military maneuver or simulated wartime operation involving planning, preparation, and execution. It is carried out for the purpose of training and evaluation. It may be a Combined, Joint or single-Service exercise, depending on participating organizations.

Experimentation —An activity or event that explores or examines the use of new operational concepts, new technology, new equipment, new Tactics, Techniques, and Procedures (TTPs), new Doctrine, or new organizations to validate their utility for further development or incorporation into approved doctrine and procedures. Experiments often place industry developers together with Service warfighters to allow emerging concepts and systems to be field tested with feedback gathered and processed in a more efficient manner.

Key Exercise—A major exercise which has the potential to impact Air Force doctrine, force structure and employment concepts is considered for review and selection by the Air Force Exercise / Experimentation Coordination Team (AFECT). If the exercise is approved as a key exercise, then it is published in the AFKEWES.

Modeling and Simulation (M&S)—The use of models, to include emulators, prototypes, simulators and stimulators, either statically or over time, to develop data as a basis for making managerial or technical decisions. The terms "modeling" and "simulation" are often used interchangeably. These are tools to analyze processes or systems. They are often used to add fidelity to exercises by simulating actions and responses of systems and subsystems.

Attachment 2

AIR FORCE EXERCISE COORDINATION TEAM (AFECT)

A2.1. Purpose. The AFECT advocates proper representation of aerospace power and supports Air Force participation in key exercises and experiments. It does this by providing a forum for HQ USAF, MAJCOM, Wargaming Centers and other stakeholders to improve Air Force performance in exercises and experiments. The AFECT is supported by Support Coordination Teams (SCTs) which keep AFECT members fully informed on exercise/experiment planning actions. The AFECT takes direction from and is responsible to HQ USAF/XOC.

A2.2. Objectives. AFECT objectives are to:

A2.2.1. Coordinate policy, guidance and oversight for Air Force participation in “key” Joint exercises and experiments to advocate proper representation of aerospace power.

A2.2.2. Assist in preparing AFKEWES, monitor AFKEWES execution, and recommend changes, as required.

A2.2.3. Orchestrate and integrate pro-active HQ USAF participation in the planning, execution, and post-exercise/experiment assessment processes.

A2.2.4. Assist MAJCOM ECTs in staffing issues requiring resolution.

A2.2.5. Keep the senior Air Force leadership informed on key exercise and experiments issues.

A2.3. Membership. HQ USAF/XOCW will chair the AFECT, which is an O-6 level team. Members include representatives from HQ USAF/XOC, XOI, XOO, XOR, ILX and SCX, AFAMS, AFDC, MAJCOMs (as required), ACC/XOT, AC2ISRC, AFEO, and C2TIG. ACC/XOT serves as a member to coordinate and integrate ACC participation in world-wide exercises and experiments and provide linkage between the AFECT/AJECT scheduling process. Other members will be on an as required or ad hoc basis.

A2.4. Support Coordination Teams (SCTs). The AFECT is supported by ad-hoc SCTs for each key exercise and experiment. Membership on SCTs will be as required for the particular exercise or experiment they support but will generally mirror the membership of the AFECT. The AFKEWES contains a personnel listing of the SCT for each key exercise or experiment.

A2.5. Meetings. HQ USAF/XOCW calls AFECT meetings approximately two or three times per year or as requested by the AFECT Chair. However, the only mandatory AFECT meeting will be held annually to review and approve the proposed AFKEWES. Additional meetings may be held when problems arise that cannot be resolved by the “key” exercise/experiment SCTs or through the normal staffing process.

A2.6. Secretariat. HQ USAF/XOCW provides the AFECT Secretariat, arranges for meeting, prepares meeting minutes, tracks AFECT taskings, decisions and meetings, and provides other support, as directed by the AFECT Chairman.

Attachment 3**MAJCOM EXERCISE COORDINATION TEAMS (ECTS)**

A3.1. Purpose. MAJCOM ECTs advocate proper representation of aerospace power and support Air Force participation in key exercises and experiments. They do this by providing a forum for MAJCOM stakeholders, NAF and AFFOR Staffs and Wargaming Centers to discuss issues and find solutions during planning for key exercises/experiments. MAJCOMs form ECTs when an exercise/experiment under their purview is designated as a “key” exercise/experiment in the AFKEWES.

A3.2. Objectives. MAJCOM exercise coordination team objectives are to:

A3.2.1. Assist in coordination of the AFKEWES, monitor its execution and recommend changes, as required.

A3.2.2. Orchestrate and integrate pro-active MAJCOM participation in the planning, execution and post exercise processes for key exercises and experiments.

A3.2.3. Advise MAJCOM senior leadership on key exercise issues and experiments.

A3.2.4. Propose exercise M&S improvements to HQ USAF/XOC.

A3.2.5. Provide MAJCOM continuity across the spectrum of key exercises.

A3.2.6. Assist in ensuring proper and appropriate representation of aerospace power.

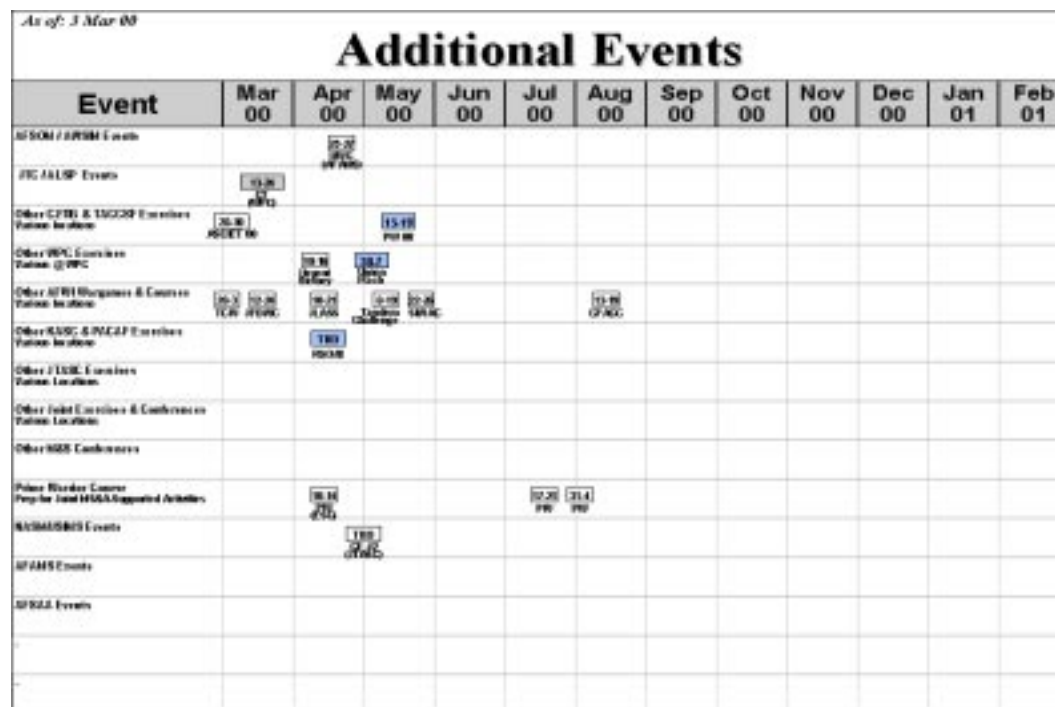
A3.2.7. Ensure pre-exercise and pre-experiment training is accomplished, as required.

A3.2.8. Emphasize need for crisis action phases for applicable exercises and ensure MAJCOM participation, as required.

A3.3. Membership. The MAJCOM exercise focal point should chair meetings with representatives from across the MAJCOM staff, and other agencies, as required. Appropriate members of the HQ USAF AFECT and DRUs/FOAs will participate in the MAJCOM ECT process through video-teleconferencing or exchange of email and review of minutes, as required.

A3.4. Meetings. The MAJCOM Exercise Coordination Team Chair calls meetings, as required, based on the MAJCOM schedule for conduct of key exercises and experiments.

EXAMPLE OF THE AIR FORCE EXERCISE/EXPERIMENT AND WARGAME EVENTS SCHEDULE (AFKEWES)



As of: 1 Mar 00												
Roving Sands												
	Mar 00	Apr 00	May 00	Jun 00	Jul 00	Aug 00	Sep 00	Oct 00	Nov 00	Dec 00	Jan 01	Feb 01
ROVING SANDS III / TMDI AFSCM FORSCOM-22M Bldg. AF OFC: C2IG												
Sponsoring HQ: FORSCOM, JFCOM (TMDI) Supporting HQ: 8AF, 18th ABN Corps, 2nd Flt, II MEF Purpose: Joint Theater Air and Missile Defense Ex Locations: • Primary: Ft Bliss, JTASC • Distributed: Barksdale, Eglin, Hurlburt, Nellis, Dahlgren, LeJeune Senior Officer Participation: • TBD					Issues: <ul style="list-style-type: none"> Budget concerns, initial estimates show a \$7.7 M shortfall TBMCS fielding for all services critical to success Further DIS upgrades for AFSOM critical to success <ul style="list-style-type: none"> RS00 Tech Test II completed 11 Feb, vast improvements to AFSOM validated on small scale XVIII ABN Corp participation may be reduced, no formal message at this time 							
Details: <ul style="list-style-type: none"> Scenario highlights Joint Tactical Air Operations (JTAC), including multinational forces, two-phased execution <ul style="list-style-type: none"> Phase I will focus on tactical training, with no attrition Phase II is JFACC & AOC training with full ATO cycle <ul style="list-style-type: none"> JAOC to be at Barksdale AFB with 300 personnel SAF wants 24-hr ATO cycle and attrition to train staff Live-fly Attack Operations at Nellis Range 16-23 Jun 00 M&S primarily run from JWFC, including OFFCOR air <ul style="list-style-type: none"> Blue air run from Hurlburt by Professional Control Force OFFCOR IADS simulations to be played with CATT/DICE, significant improvement in simulation fidelity 					Assessment / Recommendations: <ul style="list-style-type: none"> Exercise design has always been a problem for Roving Sands <ul style="list-style-type: none"> Competing needs of Army AD unit tactical training and AF battlestaff training cannot be simultaneously optimized Tactical-to-Operational span is a tough M&S challenge -- requires simultaneous detail plus theater scale Although a training exercise, Roving Sands continues to drive Joint TTP, doctrine evolution, and acquisition Recommendation: Continue to support fully and advocate for funding 							

<u>Points of Contact</u> LT Col Paul Kossina Mr Mark Rusboldt Mr Dittmyre Col Ewing Mr Drew Smith Mr Gary Hanks LT Col Dan Kuecker	<u>Office</u> AFAMS AFAMS ACC/DOXE SAF AF/XOCW C2TIG C2TIG	<u>DSN</u> 970-5743 970-5744 574-4093 781-2161 425-5026 579-7214 641-9000 ext 9541	<u>Comm</u> (407) 208-5743 (703) 588-5026	<u>E-Mail</u> paul.kossina@afams.af.mil mark.rusboldt@afams.af.mil bruce.dittmyre@langley.af.mil drew.smith@pentagon.af.mil gary.hanks@hurlburt.af.mil dana.kuecker@hurlburt.af.mil
http://xo.occ.af.mil/objects/default.htm http://c2tic.hurlburt.af.mil/				
<u>C2 Systems</u> TBMCS GCCS 3.0.2 + COMPASS ADSI AF/NAVY 10.8.2.4 P1 ARMY 10.3.18 AMDWS 1.0E AFATDS AG8 ASAS (RWS) 2.3	<u>Provided By</u> AOC ESC ARMY ARMY ARMY ARMY	<u>Models</u> AWSIM + DIS ICE JQUAD+ ASCOT CATT/DICE		
		<u>Provided By</u> JTASC BNDO JIOC PlexSys Inc AFWIC		

Attachment 5

TRAINING PROGRAMS FOR EXERCISE AND EXPERIMENTS

A5.1. Pre-exercise education and training are essential. Three levels of training are required for key personnel participating in key exercises or experiments:

A5.1.1. Qualification training for exercise/experiment participants.

A5.1.2. Preparation training for specific exercises and experiments.

A5.1.3. Training for senior officers (above O-6) which condenses and tailors the qualification and continuation training provided to exercise/experiment players.

A5.2. Qualification training can be acquired through formal courses. For personnel requiring qualification training, AETC's Prime Warrior Course, a four and one half day exercise and wargame training course with emphasis on the conduct of exercises and M&S support, is conducted by the Air Force Wargaming Institute (AFWI). In addition, ACC offers initial qualification training through their C2 Warrior Training Program. Both of these programs offer valuable training for personnel that participate in key exercises/experiment planning, execution, and assessment on a regular basis.

A5.3. Preparation training should be designed to prepare exercise/experiment participants to participant in a specific exercise/experiment. Such training should be tied to preparing players to support Air Force objectives. Continuation training should brief exercise participants on exercise specific scenarios, the construct, and M&S support required to simulate the postulated situation. It should also teach participants new operational concepts and doctrine being played or assessed, new systems being used for experimentation purposed, and assign player responsibilities for capturing lessons learned and potential insights from the exercise results. Preparation training is normally accomplished approximately 30 days prior to the exercise/experiment for AFFOR Staffs and just prior to the exercise for AFFOR and Control Staff augmentees. AFDC offers Service/joint doctrine overview sessions and doctrine-related issue briefings through their Aerospace Doctrine Outreach Program. Sessions can be tailored to meet specific exercise/experiment requirements.

A5.4. Senior Officer Training is the responsibility of the agency conducting the exercise/experiment and will include the same general content as that provided to other participants except that it will be presented in a condensed format. In addition, insights from previous exercises and experiments by senior officers will be included. Senior officer training is normally accomplished approximately one week prior to the exercise/experiment.

A5.5. The goal for Air Force exercises/experiment training programs is to create a pool of trained personnel throughout the Air Force who know how to properly employ aerospace power during war and to understand the limitations of M&S during exercises and experiments so that appropriate adjustments can be made to produce realistic exercise/experiment results. This includes personnel from the ANG and AFRC.

Attachment 6**ANG AND AFRC SUPPORT FOR KEY EXERCISES AND EXPERIMENTS**

A6.1. ANG and AFRC augmentation personnel can provide invaluable assistance in improving Air Force participation in key exercises and experiments. The purpose of the ANG AND afrc program for supporting exercises and experiments is to expand existing ARC augmentation capabilities and increase the cadre of trained personnel with expertise in models, control staff operations, AFFOR/AOC operations and, in other areas, as required. ANG and AFRC support can also reduce active duty PERSTEMPO and provide an enhanced wartime capability.

A6.2. The following sub-paragraphs describe the ANG and AFRC exercise Support Program:

A6.2.1. ANG and AFRC unit personnel are capable of supporting exercise and experiments and can significantly assist exercise/experiment POCs in planning, execution and post-wargame activities. These personnel have unique expertise in battlestaff procedures, opposition force operations, M&S systems, and other player and control staff operations.

A6.2.2. Numerous AFRC Individual Mobilization Augmentees (IMAs) are available on a volunteer basis to augment exercise/experiment AFFOR/AOC Staffs when positions cannot be filled from active duty resources. Many of these personnel have previous experience in exercises and experiments.

A6.2.3. HQ USAF/XOCW maintains a listing of ANG and AFRC volunteer personnel that have been trained and have participated in Joint and Air Force exercise/experiments. These personnel provide valuable experience and continuity and may be available through coordination with HQ USAF/XOCW, if adequate lead-time is provided for scheduling and funding.

A6.3. Responsibilities:

A6.3.1. ANG or AFRC will provide an ARCLO to HQ USAF/XOC. The ARCLO will facilitate recruitment of Air Reserve Component volunteers, coordinate proficiency training with the C2TIC, and secure/manage the funding required to support the program. Additionally, the ARCLO will coordinate and integrate wargaming augmentation and training requirements and match positions against manpower requirements that can be filled by ANG and AFRC personnel, if requested by the supported MAJCOM. For ANG and AFRC personnel, exercise/experiment augmentation will be an additional duty since the augmentees will be subject to real world exercise, contingency and, in the case of the ANG, State taskings.

A6.3.2. Requests for ARC support should be forwarded to the ARCLO in HQ USAF/XOCW for possible fills from ARC units or IMA resources. These requests should arrive at AF/XOCW as soon as possible in the exercise planning process but not later than 45 days prior to Time Phased Force Deployment Data (TPFDD) close out. If real world TPFDD does not exist, requests should be forwarded to the ARCLO no later than 45 days prior to the exercise.